

Version with Markings to Show Changes Made:

IN THE SPECIFICATION

Kindly amend the specification as follows:

Kindly amend the paragraph at column 4, lines 42- 58 as follows:

C1 As illustrated in FIG. 3, the spacing between the accessory holes 14 can be measured in terms of the arc length [1] L_{arc} along circle 10 or in terms of the chord length [1] L_{chord} . In accordance with the preferred embodiment, the distance between holes 14 is measured by the chord length [1] L_{chord} , and such lengths are equal. Furthermore, the distance between each strut hole 12 and its adjacent accessory hole 14 need not be the same as the distance between two adjacent accessory holes 14. As illustrated in FIG. 3, this distance can be measured along arc as d_{arc} or along the chord as [decor] d_{chord} . In accordance with the preferred embodiment of the present invention, the chord lengths between every accessory hole 14 and its adjacent accessory hole 14 or strut hole 12 are equal, that is $d_{chord} = [1] L_{chord}$. In addition, the chord length [is] should be greater than about 0.475 inch, but preferably is between about 0.48-0.52 inch, and most preferably equal to about 0.5 inch.

Kindly amend the paragraph at column 4, line 59 - column 5, line 14 as follows:

C2 In accordance with the specific embodiment of the present invention illustrated in FIG. 2, the exact positions of the holes 8 are determined as follows. The process is very different from the unsystematic positioning of the holes in prior art Ilizarov devices, which starts with determining the ring diameter. The Taylor Spatial Frame™ fixator hole positions are determined by first determining the hole spacing, and then determining the number of

holes that will be used. The present hole positioning scheme starts with the number of holes because it is important that the number be a multiple of three to maintain the requisite symmetry. Once the distance between the holes and the number of holes is determined, the diameter of the ring is defined by the formula:

C2

$$d = l \left(\sqrt{\frac{1}{\tan^2 \left(\frac{\alpha}{2\pi} \right)} + 1} \right)$$

where $[1] \ l$ is the chord distance between holes θ , and N is the total number of holes.

Kindly amend the section after the equations at column 5, lines 28- 31 as follows:

C3 where r represents the radius of the circle θ . If for convenience we define $v = 1/2[1] \ l$ and $Q = \tan (1/2 \ \theta)$, the following relationships can be derived from the above equations:

Kindly amend the section after the equations at column 5, lines 58- 61 as follows:

C4 Therefore, for any plate having N holes and a chord distance of $[1] \ l$ between adjacent holes, the diameter of the circle that defines the hole locations can be expressed mathematically as

Kindly amend the heading of Table 1 at column 6, lines 23 as follows:

C5

Chord Length ($[1] \ l$) (inches)	Number of Holes (N)	Diameter (inches)	angle (θ) degrees
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Kindly amend the paragraph at column 8, lines 37-54 as follows:

C6
In accordance with another embodiment of the present invention, a plate can include holes corresponding to more than one diameter within a given system. As noted above each system is defined by the hole spacing. An example is illustrated in FIG. 10 using the system defined above in Table I. The plate 2 includes two sets of holes 8. The first set 38 includes sixty (60) holes equally spaced ($[1] L_{\text{chord}}=0.5$ inch) along circle 10. As indicated above in Table I, the diameter of circle 10 is 9.5537 inches, and the radius $r_1=4.7769$ inches. The second set of holes 40 consists of six groups of three holes, i.e. six partial plates. These holes are spaced along the next highest diameter within the system. Therefore, the diameter of circle 36 is 10.5082 and the radius $r_2=5.2541$. Multiple diameter plates, such as shown in FIG. 10 are very useful. In such plates, the struts can be attached at one diameter, using for example hole set 40, and the accessories can be attached using the other diameters, using for example hole set 38.

Kindly amend the paragraph at column 9, lines 1-11 as follows:

C7
The unique hole placement scheme described herein provides a number of advantages over the prior art. In particular, a ring that has 2 x 3 symmetry substantially simplifies the manufacturing process and the fixator construction process. With 2 x 3 symmetrical rings, one ring can serve as either the upper ring or the lower ring. As a result, a manufacturer need only make half as many ring designs for a system. In addition, if [a] surgeons using the device want to attach additional rings to the base Taylor Spatial Frame™ fixator, they need not overly concern themselves with having the proper ring, nor the proper orientation of the ring.

Kindly amend the paragraph at column 9, lines 12-45 as follows:

Key advantages also result from having defined relationships between the various holes on a plate, and [a] defined relationships between various holes on different plates. In general, this facilitates the use of mathematical methods to analyze a fixation system, and determine the proper mode for correcting a deformity. From a clinical standpoint, it gives a surgeon a great deal of flexibility and aids in preoperative planning and surgical application of the device. For example, in cases of severe deformities the various bone fragments are completely out of alignment. In such cases it is difficult for a surgeon to place various plates with the same orientation on the various fragments. With the current invention, a surgeon when attaching the device can place reference wires at the same predetermined anatomical position on each unaligned bone fragment. Once the surgeon determines the appropriate positioning of the first plate on the first bone fragment, the first plate is secured to the reference wire. Subsequent plates can then be easily positioned on the remaining bone fragments. A surgeon would attach[ed] the subsequent plates to the reference wires on the remaining fragments using the accessory holes at the same locations used with the first plate. The various plates would then be aligned after the correction is made. Such strategic placement of plates relative to one another facilitates the use of the unique method of using the Taylor Spatial FRAME™ fixator. Moreover, this provides an easy gauge during the course of the correction that allows the surgeon to judge if the correction is accurate or needs adjustment. Indeed, if the plate holes are not moving into alignment, the surgeon knows that an adjustment is needed. Furthermore, once the plates have returned to their neutral positions, with the holes in the upper and lower plates are perfectly aligned, and a surgeon can simply insert horizontal rods. Such rods could provide accessory stabilization if required.